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KIOM-CRC#61 attenuates oxaliplatin-induced neurotoxicity in animal model

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Chemotherapy-induced peripheral neuropathy (CIPN) is a type of neuropathic pain. Oxaliplatin, a platinum-based chemotherapeutic agent induces peripheral neuropathic pain because of its neuronal toxicities. Therefore, the dose-limiting factor is still obstacle in the use of oxaliplatin to treat cancer patients. On the screening test in PC12 cells, we found several effective materials to relieve oxaliplatin-mediated neurotoxicity from the library of medicinal herbs traditionally used in Korea. KIOM-CRC#61 is one of the effective herbs showing the reducing activity of oxaliplatin-induced neurite outgrowth inhibition in PC12 cells. KIOM-CRC#61 was extracted in distilled water (100°C for 2 hours, 2 times) and freeze-dried to produce a soluble-aqueous extract. Neuropathic pain behavior was induced in eight-week-old male C57BL/6 mice were intraperitoneally injected with oxaliplatin at the dose of 10 mg/kg/wk for 2 weeks (total 20 mg/kg). One week after the final oxaliplatin injection, animals were divided into 2 groups and each animal group was administered with KIOM-CRC#61 or vehicle daily for 4 weeks. Mechanical allodynia was tested using Von Frey monofilaments with 0.4 g bending force. In the present study, we report that KIOM-CRC#61 greatly attenuated oxaliplatin-induced mechanical hyper-sensitivity in an animal model. Therefore, KIOM-CRC#61 could be considered as a good starting material to develop a novel therapeutic agent targeting oxaliplatin-induced peripheral neuropathy.

Biography

Jin-Mu Yi has his expertise in evaluation of anti-cancer and anti-CIPN activity using *in vitro* and *in vivo* model.

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